

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* MANFRED STEFENER,  
ANDRE PEINE, AND  
ULRICH STIMMING

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Appeal 2007-1211  
Application 10/018,319  
Technology Center 1700

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Decided: April 20, 2007

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Before EDWARD C. KIMLIN, THOMAS A. WALTZ, and PETER F. KRATZ, *Administrative Patent Judges*.

KIMLIN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. §§ 6 and 134 from the final rejection of claims 23-29, 74, and 75. Claim 23 is illustrative:

23. A system for supplying a consumer with electrical power, comprising:

a fuel cell device for generating electrical power,

a fuel tank device for housing fuel to be supplied to the fuel cell device, and

a pump device provided on the consumer side, for supporting a supply of the fuel from the fuel tank device to the fuel cell device,

characterised in that the fuel cell device is provided on the consumer and the fuel tank device is a module that can be inserted into the consumer to supply power and be removed from the consumer,

wherein the fuel is supplied essentially by the pump device.

The Examiner relies upon the following references as evidence of obviousness:

Lessing	US 5,641,585	June 24, 1997
Gamo	US 5,976,725	Nov. 2, 1999
Kelly	US 6,268,077 B1	July 31, 2001
Jankowski	US 6,638,654 B2	Oct. 28, 2003

Appellants' claimed invention is directed to a system for supplying a consumer with electrical power. The system comprises a fuel cell device for generating the electrical power, a fuel tank which supplies fuel to the device, and a pump for delivering the fuel from the tank to the device. The fuel tank device is a module that can be inserted into and removed from the consumer.

Appealed claims 23-29, 74, and 75 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lessing in view of Kelly, Gamo or Jankowski.

We have thoroughly reviewed each of Appellants' arguments for patentability. However, we are in full agreement with the Examiner that the claimed subject matter would have been obvious to one of ordinary skill in the art within the meaning of § 103 in view of the applied prior art.

Accordingly, we will sustain the Examiner's rejection for essentially those reasons expressed in the Answer, and we add the following for primarily for emphasis.

As set forth by the Examiner, Lessing, like Appellants, discloses a miniature ceramic fuel cell that is part of a consumer device, such as a cell phone. The system of Lessing supplies fuel and ambient air to the fuel cells by the use of pumps 22 and 26, respectively, and fuel tank 18 is mounted on the consumer and supplies hydrogen fuel to the cell. As appreciated by the Examiner, Lessing does not teach that the fuel tank is a module that can be inserted into and removed from the consumer. However, we fully concur with the Examiner that Kelly, Gamo, and Jankowski evidence the obviousness of designing the system of Lessing to make the fuel tank a replaceable module, as presently claimed. We agree with the Examiner that the requisite motivation arises from the known advantages of utilizing a replaceable source of fuel, e.g., to render the system or device reusable upon depletion of fuel from the tank.

Appellants maintain that "Lessing discloses that the housing of the cell phone completely encloses the components of the power supply, without suggesting that the fuel tank 18 is accessible for removable or replacement" (page 11 of principal Br., last sentence). However, as properly noted by the Examiner, "[t]he fact that the fuel tank, among other components, is encased by the housing does not preclude it being a removable or exchangeable tank" (page 5 of Answer, first para.). The Examiner explains that "a conventional cellular phone battery may be located within the phone housing but is removable" (*id.*).

Appellants also submit that "an exchangeable fuel tank module that is to be handled by a consumer, which must be transported by different means of transportation in commerce, requires overcoming enormous difficulties regarding matters of safety, regulatory compliance, and consumer protection" (page 13, of principal Br., first para.). While this may be the case, Appellants have pointed to no specific concerns or system designs within the scope of the appealed claims that would have been considered non-obvious to one of ordinary skill in the art at the time of filing the present application.

Appellants also maintain that "providing a fuel tank module that can be inserted and removed requires overcoming significant technical challenges regarding the mechanical design, including provision of a mechanical retention mechanism, an injection mechanism, a leak-type fluid connection mechanism, and, in some cases, electrical interfaces" (page 14 of principal Br., second para.). While Appellants note that none of these factors are addressed by Lessing, the Examiner's rejection relies upon the disclosures of Kelly, Gamo, and Jankowski for evidencing the obviousness of designing and using a modular fuel tank that is replaceable. Significantly, the appealed claims do not define any particular design, such as retention and ejection mechanisms and leak-type fluid connection mechanisms, nor do Appellants point to any particular mechanical design or structure associated with the claimed system that would have been non-obvious to one of ordinary skill in the art.

Appellants also contend that the Examiner has not demonstrated that the teachings of the secondary references are compatible with the teachings of Lessing, noting that, in particular, the fuel tanks of Kelly and Gamo supply pressurized hydrogen gas and not the hydrocarbon fuel of Lessing. However, it is not necessary for a finding of obviousness that the features of the secondary references be physically incorporated into the system of the primary reference. In the present case, we are satisfied that the secondary references establish that one of ordinary skill in the art would have needed only routine experimentation to modify the design of the Lessing system such that the fuel tank is a replaceable modular one.

As for the separately argued claims, we agree with the rationale set forth by the Examiner in the Answer. In particular, we agree with the Examiner that it would have been obvious to one of ordinary skill in the art that the fuel pump of Lessing can be adjusted to provide a constant output of fuel.

As a final point, we note that Appellant bases no argument upon objective evidence of non-obviousness, such as unexpected results, which would serve to rebut the *prima facie* case of obviousness established by the Examiner.

In conclusion, based on the foregoing and the reasons well-stated by the Examiner, the Examiner's decision rejecting the appealed claims is affirmed.

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Application 10/018,319

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(iv)(effective Sept. 13, 2004).

AFFIRMED

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